



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,461	05/08/2006	Clemens Schwab	510.1157	2110
23280	7590	08/13/2008		
Davidson, Davidson & Kappel, LLC			EXAMINER	
485 7th Avenue			ONEILL, KARIE AMBER	
14th Floor				
New York, NY 10018			ART UNIT	PAPER NUMBER
			1795	
			MAIL DATE	DELIVERY MODE
			08/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,461

Applicant(s)

SCHWAB, CLEMENS

Examiner

Karie O'Neill

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 5-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/ISD)
Paper No(s)/Mail Date 5-8-06, 2-26-07
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. The Applicant's Preliminary Amendment filed on May 8, 2006, was received. Claims 1-4 have been canceled. Claims 5-8 have been added as new. Claims 5-8 are pending in this office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) or (f), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements (IDS), submitted May 8, 2006 and February 26, 2007, have been received and considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Arnold et al. (US 6,195,999 B1).

With regard to Claim 5, Arnold et al. discloses in Figure 1, a fuel cell system (10) comprising: a fuel cell unit (12) for generating electrical energy; a cooling circuit assigned to the fuel cell unit (12) and having a heat exchanger (40) downstream of the fuel cell unit (12); an adsorption accumulator, called a storage tank (22), assigned to the fuel cell unit (12) for releasing heat, the adsorption accumulator (22) being operatively thermally connected to the heat exchanger (40); and a line (32) connecting the fuel cell unit (12) to the adsorption accumulator (22), the line capable of feeding fuel cell waste products, or the heat by-product from the stack (12) to the adsorption accumulator (22) (column 2 lines 24-60 and column 3 lines 17-20). The phrases "for mobile use", "for generating electrical energy", and "for releasing heat", are considered functional language which impart intended use to the structural limitations of the claim. Therefore, while the intended use language of the claim has been considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claim 6, Arnold et al. discloses wherein the adsorption accumulator, called a storage tank (22), includes a "hydrogen retention material" comprising a metal such as sodium-aluminum which reacts with and stores hydrogen as a hydride of the metal (column 2 lines 44-60).

With regard to Claim 7, Arnold et al. discloses a method for operating a fuel cell system (10), the fuel cell system including a fuel cell unit (12) for generating electrical energy, a cooling circuit assigned to the fuel cell unit (12) and having a heat exchanger (40) downstream of the fuel cell unit (12), an adsorption accumulator, called a storage tank (22), assigned to the fuel cell unit (12) for releasing heat, the adsorption accumulator (22) being operatively thermally connected to the heat exchanger (40), and a line (32) connecting the fuel cell unit (12) to the adsorption accumulator (22), the line capable of feeding fuel cell waste products, or the heat by-product from the stack (12), to the adsorption accumulator (22) (column 2 lines 24-60 and column 3 lines 17-20); the method comprising: when the fuel cell system (12) is starting up, heating coolant in the cooling circuit via the heat exchanger (40) using heat stored in the adsorption accumulator (22), with the fuel cell waste products being fed to the adsorption accumulator (22) at the same time, the fuel cell waste products including waste gas, and in normal operation, feeding heat to the adsorption accumulator (22) via the heat exchanger (40) (column 3 lines 5-38).

With regard to Claim 8, Arnold et al. discloses wherein the adsorption accumulator, called a storage tank (22), includes a "hydrogen retention material" comprising a metal such as sodium-aluminum which reacts with and stores hydrogen as a hydride of the metal (column 2 lines 44-60).

6. Claims 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubo (EP 0989290 A2).

With regard to Claim 5, Kubo discloses in Figure 1, a fuel cell system comprising: a fuel cell unit (2); a cooling circuit assigned to the fuel cell unit (2) and having a heat exchanger, called a radiator (3), downstream of the fuel cell unit (2); an adsorption accumulator, called a hydrogen absorbing tank (1) assigned to the fuel cell unit (2), the adsorption accumulator (1) being operatively thermally connected to the heat exchanger (3); and a line connecting the fuel cell unit (2) to the adsorption accumulator (1), the line capable of feeding fuel cell waste products, or heat generated by the fuel cell, to the adsorption accumulator (1) (paragraphs 0024-0026). The phrases "for mobile use", "for generating electrical energy", and "for releasing heat", are considered functional language which impart intended use to the structural limitations of the claim. Therefore, while the intended use language of the claim has been considered with regard to structure, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP

2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claim 7, Kubo discloses in Figure 1, a method for operating a fuel cell system, the fuel cell system including a fuel cell unit (2), a cooling circuit assigned to the fuel cell unit (2) and having a heat exchanger, called a radiator (3) downstream of the fuel cell unit (2), an adsorption accumulator, called a hydrogen absorbing tank (1), assigned to the fuel cell unit (2), the adsorption accumulator (1) being operatively thermally connected to the heat exchanger, or radiator (3), and a line connecting the fuel cell unit (2) to the adsorption accumulator (1), the line capable of feeding fuel cell waste products, or heat generated by the fuel cell, to the adsorption accumulator (1), the method comprising: when the fuel cell system is starting up, heating coolant, or water, in the cooling circuit via the heat exchanger, or radiator (3), using heat stored in the adsorption accumulator (1), with the fuel cell waste products, or heat generated by the fuel cell, being fed to the adsorption accumulator (1) at the same time, the fuel cell waste products including waste gas, and in normal operation, feeding heat to the adsorption accumulator (1) via the heat exchanger (3) (paragraphs 0024-0026).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571)272-

8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill
Examiner
Art Unit 1795

KAO

/Mark Ruthkosky/

Primary Examiner, Art Unit 1795